

THE CANADIAN GREAT LAKES BASIN

INTAKE OUTFALL ATLAS

(8 Volume Set)

Volume 2

AUGUST 1990

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MOE



Ontario

Environment  
Environnement

Jim Bradley, Minister/ministre

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CANADIAN GREAT LAKES BASIN

INTAKE - OUTFALL ATLAS

VOLUME 2

ST. MARY'S RIVER

by  
Kleintfeldt Consultants Limited

AUGUST 1990

M. Griffiths (ed)

Water Resources Branch  
ONTARIO MINISTRY OF THE ENVIRONMENT

1990, Her Majesty the Queen in Right of Ontario

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## CANADIAN GREAT LAKES BASIN INTAKE/OUTFALL ATLAS

### GUIDE TO USE

#### INTRODUCTION

The Canadian Great Lakes Basin Intake/Outfall Atlas will be used by various public organizations as well as private concerns for water quality assessment studies, pollution control plans, investigation of bacterial pollution problems at bathing beaches and in the formulation of long range management strategies.

The Canadian Great Lakes Basin, Intake Outfall Atlas is composed of eight separate volumes as listed below:

- Volume 1 - Lake Superior
- Volume 2 - St. Marys River
- Volume 3 - Lake Huron/Georgian Bay
- Volume 4 - St. Clair River/Lake St. Clair/  
Detroit River
- Volume 5 - Lake Erie
- Volume 6 - Niagara River/Welland Canal/Welland River
- Volume 7 - Lake Ontario
- Volume 8 - St. Lawrence River

For the purposes of this project, questionnaires were sent to appropriate individuals at public and private intake and outfall facilities. Facilities may fall into any one of the industrial categories, or it can be a municipally or provincially operated Water Treatment Plant (WTP) or a Sewage Treatment Plant (STP). Municipalities were also contacted for information regarding various outfalls such as storm, combined, and sanitary sewers that discharge to the Great Lakes System or tributary stream. The bulk of the data were received by Kleinfeldt between December 1986 and June 1987.

A list of Ontario municipal, provincial and private industrial operations was developed using several sources including: IMIS and UMIS listings, from the Water and Wastewater Management Section, Regional Abatement and Utility Officers, Reports from the International Joint Commission, earlier versions of this Atlas, reports and discussions with various individuals. In order to be included in this Atlas identified operations must either discharge effluent (including cooling water and stormwater) to the Canadian Great Lakes or draw water from the the system. These operations must be located within 2 kilometres of the Great Lakes System shoreline. The Great Lakes System includes all Great Lakes within Canadian boundaries as well as the major Interconnecting Channels.

A report summarizing discharging operations and receiving water bodies has been prepared and submitted, under separate cover, to the Great Lakes Section.

## USING THE ATLAS

### **I General Layout**

The Atlas begins with Volume 1 representing Lake Superior and ends with Volume 8, representing the St. Lawrence River, thus following a general west to east flow. Mapping of the Great Lakes shoreline is accomplished by using continuous and overlapping hydrographic charts and topographic maps.

Each map contains a legend of symbols for quick reference, an orientation arrow indicating the north direction and a bar scale. When working with each map, check the scale as it may vary between maps.

### **II Legends**

Legends provided on each map are self-explanatory. In the case of shore based effluent pipes, including sewer system outfalls, the arrowhead indicating outfall location is on the land side of shoreline. Similarly shore based intakes have their location indicators on the water side of the shoreline. Thus, location indicators also illustrate direction of flow through any given pipe. In some situations, because of pipe length and available map scale, offshore effluent and water intake pipes have been illustrated as shore based, however, consultation with the facing data page will give exact data on length of pipe from shore.

### **III Maps**

Each map is numbered and is accompanied by a data page. Information on industrial, provincial or municipal intake or outfall structures within a map's borders is detailed on the data page. All intakes and outfalls, (excluding sewer system outfalls) have a numerical designation located as close to the actual structure as possible. These numerical designations begin at one (1) for each map, and relate to the "Structure Number" category on each data page. Although limited to descriptions of seven (7) structures per page there can be more than one data page relating to a simple map.

### **IV General**

If a particular structure appears in the area of overlap between two maps the structure will be presented on one map only. However, where there is map duplication (i.e. between volumes) the structures will be mapped and data presented in both volumes.

Water and sewage treatment operations are listed by plant name. The Atlas user should refer to the location category in the data tables for identification of plant location. The abbreviations WPCP and STP describe sewage treatment operations and are assigned to an operation based on MOE designations.

## **V Lists of Operations:**

In order to assist the user in locating the required information on a particular operation, we recommend that the user begin with our lists given below. Please note, these lists do not include municipal jurisdictions that provided sewer/drainage system information only.

Table 1: Listing of all operations that have major intake/outfall structures mapped and tabulated in the Atlas. Does not include municipal sewer/drainage outfalls.

Table 2: Listing of all operations within a given volume and a corresponding index.

Table 3: Listing of industrial operations not responding to the questionnaire (Information was subsequently supplied by the MOE).

## **VI Abbreviations:**

Before using the Atlas it is recommended the user be familiar with the abbreviations presented in Table 4.

## **VII Explanation of Data Tables:**

Table 5 provides a brief explanation of each information category to improve the clarity for the user.

## **Acknowledgments**

The Canadian Great Lakes Basin Intake/Outfall Atlas was compiled by Kleinfeldt Consultants Limited, and with the assistance of the Great Lakes Section of the Ontario Ministry of the Environment's Water Resources Branch.

Kleinfeldt Consultants wishes to thank Mrs. Marta Griffiths of the MOE's Great Lakes Section for her time and patience exhibited throughout the course of this project.

We also acknowledge the efforts of Ministry of the Environment personnel, in the Great Lakes Section, as well as, Regional and District Offices who took the time and made the effort to review the data and maps contained in the Atlas, and provided comments, suggestions and additional information. Their efforts have allowed us to improve the document and hence the overall utility of the Atlas.

Kleinfeldt Consultants would also like to take this opportunity to thank the individuals in the ministry, local municipality and industry that provided information on 500 plus operations included in this Atlas. Without the cooperation and timely responses from the majority of contacts, this project would not have been a success.

Disclaimer

The information contained in this Atlas is as accurate as the information supplied in the completed and returned questionnaires. Due to the nature of the data collection, Kleinfeldt Consultants Limited is not responsible for erroneous information supplied by any one of the 400 plus operations.

Table 1

## ALL OPERATIONS INCLUDED IN THE ATLAS

| Lake Superior             | St. Marys River           | Lake Huron/Georgian Bay   | St. Clair System          | Lake Erie                 | Welland Canal/Niagara R.   | Lake Ontario              | St. Lawrence River        |
|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|----------------------------|---------------------------|---------------------------|
| Abitibi Price Inc.        | Algoma Steel Corp.        | Blind River STP           | Amherstburg WPCP          | Amherstburg WPCP          | Anger Ave. WPCP            | Ajax WTP                  | BCL                       |
| Abitibi Price T.Bay Div.  | Sault. Ste. Marie WPCP(1) | Brights Grove STP         | Amherstburg WSS           | Blenheim WSS              | Atlas Specialty Steels     | Amherstveiw WSS           | Brockville WPCP           |
| Canada Malting Co.        | Sault. Ste. Marie WPCP(2) | Bruce A NGS               | Belle River WPCP          | Cen. Haldiman Norfolk WSS | B.F. Goodrich Canada       | Bakelite Thermosets       | Brockville WTP            |
| Domtar Packaging Ltd.     | Sault. Ste. Marie WTP(1)  | Bruce B NGS               | Belle River WTP           | Crystal Beach WPCP        | Canadian Oxy-Chemicals     | Baker Road WPCP           | Cardinal WPCP             |
| James River-Marathon Ltd. | Sault. Ste. Marie WTP(2)  | Bruce Heavy Water Plant   | Canadian Liquid Air       | Crystal Beach WTP         | Casco Company              | Bath WPCP                 | Cardinal WTP              |
| Kimberly Clark Can. Ltd   | St. Marys Paper Inc.      | Bruce Mines STP           | Canadian Salt Co. (1)     | Dunville WTP              | Cyanamid N. Falls Plant    | Bath WTP                  | Casco Company             |
| Marathon STP              | Union Carbide Canada Ltd. | Bruce Mines WTP           | Canadian Salt Co. (2)     | Elgin Area WSS            | Cyanamid Welland Plant     | Beamsville WTP            | Charlottenburgh TWP. WTP  |
| Nipigon STP               |                           | CIL /McDougall TWP        | Chinnok Chemical Co.      | Erieau Erie Beach WSS     | Domtar Fine Papers         | Belleville WPCP           | Cornwall WPCP             |
| Nipigon WTP               |                           | Collingwood WPCP          | CIL Inc. Lampton Works    | Harrow Colchester WSS     | Electro Minerals(CAN) Inc. | Belleville WTP            | Cornwall WTP              |
| Northern Wood Preservers  |                           | Collingwood WTP           | Corunna WPCP              | H. J. Heinz Co.           | Fleet Manufacturing Co.    | Biggar Lagoon             | Courtaulds Ltd.           |
| Pancake Bay Prov. Park    |                           | Domtar Inc. Sifto Salt    | Courtright WPCP           | Inco Metals Inc.          | Ford Motor Co.             | Borg-Warner Chemicals     | Domtar Fine Paper         |
| Provincial Paper Division |                           | Douglas Point NGS         | Dow Chemical Canada Ltd.  | Int. Min. & Chemicals     | Fort Erie North Pump Stn.  | Bowmanville WTP #1        | Dupont Canada             |
| Red Rock WPCP             |                           | Eldorado Resources Ltd.   | DuPont Canada Inc.        | Kent County WSS           | Fort Erie South Pump Stn.  | Bowmanville WTP #2        | Edwardsburg WPCP          |
| Red Rock WTP              |                           | Goderich WPCP             | Edgewater Beach WPCP      | Leamington WPCP           | General Motors of Can.Ltd  | Brighton STP              | Gananoque Lagoon          |
| Rosspoint WTP             |                           | Goderich WTP              | Esso Petroleum Canada     | Nanticoke TGS             | Hayes Dana Dr. Train Div.  | Burlington WTP            | Gananoque WTP             |
| Schreiber STP             |                           | Goodyear Canada Inc.      | Ethyl Canada Inc.         | Omstead Foods Ltd.        | Holiday Farms              | Canada Cement Lafarge Ltd | Iroquois STP              |
| Schreiber WTP             |                           | Goodyear Canada Inc.      | Fiberglass Canada Inc.    | Port Burwell WPCP         | Inco Metals Ltd.           | Canada Malting Co. Ltd.   | Iroquois WTP              |
| Thunder Bay TGS           |                           | Gore Bay WPCP             | Ford Motor Co. of Can.Ltd | Port Dover WPCP           | Kimberly Clark Of Canada   | Canadian Vegetable Oil    | Kingston (City) WPCP      |
| Thunder Bay WPCP          |                           | Gore Bay WTP              | General Chemical          | Port Dover WTP            | Niagara Falls WTP          | Canron Inc.               | Kraft Foods Ltd.          |
| Thunder Bay WTP           |                           | Grand Bend STP            | General Motors of Canada  | Port Rowan WPCP           | Niagara-on-the-Lake STP    | Celanese Canada Inc.      | Long Sault WPCP           |
|                           |                           | Kilbear Provincial Park   | Hiram Walker & Sons Ltd   | Port Rowan WTP            | Niagara-on-the-Lake WTP    | CFB Mountainveiw WTP      | Long Sault WTP            |
|                           |                           | Kincardine WPCP           | J. C. Keath TGS           | Port Stanely WTP          | Norton Co.                 | CFB Trenton WPCP          | Marimac Inc.              |
|                           |                           | Kincardine WTP            | Lampton County WSS        | Port Stanley STP          | Ontario Paper Co.          | Chrysler Canada Ltd.      | Morrisburg WPCP           |
|                           |                           | Lake Huron WSS            | Lampton TGS               | Port Stanley STP          | Ontario Power Co.          | Clarkson WPCP             | Morrisburg WTP            |
|                           |                           | Lions Head WTP            | Little River WPCP         | Raliegh TWP STP           | Port Weller WPCP           | Cobourg STP #1            | Nitrochem Inc.            |
|                           |                           | Little Current WTP        | Mitchells Bay WPCP        | Rock Pt. Provincial Park  | Seaway WPCP                | Cobourg STP #2            | Osnabruck TWP WPCP        |
|                           |                           | McGregor Point Prov. Park | Mitchells Bay WTP         | Romney WPCP               | Sir Adam Beck #1 HGS       | Cobourg WTP               | Osnabruck TWP WTP         |
|                           |                           | Meaford WPCP              | Novacor Chemicals         | Rosehill WTP              | Sir Adam Beck #2 HGS       | Corbett Creek WPCP        | Phillips Cables           |
|                           |                           | Meaford WTP               | Petrosar Corunna          | Selkirk Provencial Pk.    | Stampford/Niagra STP       | Darlington NGS            | Prescott WTP              |
|                           |                           | Midland WPCP              | Point Edward WPCP         | Stelco Inc. Erie Works    | Stelco Inc. Page Hersey    | Deseronto WPCP            | Richmond Die Casting Ltd. |
|                           |                           | Mitsubishi Electronics    | Polysar Ltd.              | Texaco Canada Inc.        | Stelco Inc. Welland Tube   | Deseronto WTP             | River St. Pumping St      |
|                           |                           | Owen Sound WPCP           | Port Lampton WPCP         | Turkey Pt. Provincial Pk. | Stevensville Lagoon        | Dofasco Inc.              | Rohm & Hass Canada Inc.   |
|                           |                           | Owen Sound WTP            | Sarnia WPCP               | Union Gas Ltd.            | Union Carbide Canada Ltd.  | Domtar Packaging          |                           |
|                           |                           | Parry Sound WTP           | Shell Canada Ltd.         | Union WSS                 | Welland WPCP               | Domtar Wood Preserving    |                           |
|                           |                           | Penetanguishene WPCP      | Sombra WPCP               | West Lorne WTP            | Welland WSS                | Duffins Creek WPCP        |                           |
|                           |                           | Penetang. Hospital STP    | Stoney Point WPCP         | Wheatly WTP               |                            | DuPont Canada Ltd.        |                           |
|                           |                           | Petrolia WTP              | Sunoco Inc.               |                           |                            | Easterly Filtration Plant |                           |
|                           |                           | Port Elgin WTP            | The Segrain Co. Ltd.      |                           |                            | Eldorado Resource Ltd.(1) |                           |
|                           |                           | Port McNicoll STP         | Tilbury North WSS         |                           |                            | Eldorado Resource Ltd.(2) |                           |
|                           |                           | Port McNicoll WTP         | Tilbury WTP               |                           |                            | Eldorado Resource Ltd.(3) |                           |
|                           |                           | Rio Algom Ltd.            | Wallaceburg WPCP          |                           |                            | Elizabeth Gardens PS      |                           |
|                           |                           | Southampton WPCP          | Wickes Bumper Co. Ltd.    |                           |                            | E.D. Smith Limited        |                           |
|                           |                           | Southampton WTP           | Windsor PUC WTP           |                           |                            | Ford Motor Co. of Can.Ltd |                           |
|                           |                           | Standard Aggregates Inc.  | Windsor Tecumseh WTP      |                           |                            | General Motors of Canada  |                           |
|                           |                           | Thessalon Pump House      | Windsor WPCP              |                           |                            | Goodyear Canada           |                           |
|                           |                           | Thessalon STP             |                           |                           |                            | Graham Creek WPCP         |                           |
|                           |                           | Thornbury WPCP            |                           |                           |                            | Grimsby WTP               |                           |
|                           |                           | Thornbury WTP             |                           |                           |                            | Hamilton Wentworth WPCP   |                           |

ALL OPERATIONS INCLUDED IN THE ATLAS

| Lake Superior | St. Marys River | Lake Huron/Georgian Bay | St. Clair System | Lake Erie | Welland Canal/Niagara R. | Lake Ontario              | St. Lawrence River |
|---------------|-----------------|-------------------------|------------------|-----------|--------------------------|---------------------------|--------------------|
|               |                 | TWP of Assignack WPCP   |                  |           |                          | Hamilton Wentworth WTP    |                    |
|               |                 | TWP of Assignack WTP    |                  |           |                          | Harmony Creek WPCP 1&2    |                    |
|               |                 | Victoria Harbour WPCP   |                  |           |                          | Highland Creek STP        |                    |
|               |                 | Victoria Harbour WTP    |                  |           |                          | Humber STP                |                    |
|               |                 | Waubauskene WTP         |                  |           |                          | Island Filtration Plant   |                    |
|               |                 | Wiarton WPCP            |                  |           |                          | Kingston TWP WPCP         |                    |
|               |                 | Wiarton WTP             |                  |           |                          | Kingston TWP WTP          |                    |
|               |                 |                         |                  |           |                          | Kingston WPCP             |                    |
|               |                 |                         |                  |           |                          | Kingston WTP              |                    |
|               |                 |                         |                  |           |                          | Lake Ontario Cement       |                    |
|               |                 |                         |                  |           |                          | Lakeview TGS              |                    |
|               |                 |                         |                  |           |                          | Lakeview WPCP             |                    |
|               |                 |                         |                  |           |                          | Lakeview WTP              |                    |
|               |                 |                         |                  |           |                          | LASCO Steel               |                    |
|               |                 |                         |                  |           |                          | Lennox TGS                |                    |
|               |                 |                         |                  |           |                          | Lever Brothers            |                    |
|               |                 |                         |                  |           |                          | Long Branch STP           |                    |
|               |                 |                         |                  |           |                          | Lorne Park WTP            |                    |
|               |                 |                         |                  |           |                          | Main STP                  |                    |
|               |                 |                         |                  |           |                          | Manson Insulation         |                    |
|               |                 |                         |                  |           |                          | New Toronto WTP           |                    |
|               |                 |                         |                  |           |                          | Newcastle WTP             |                    |
|               |                 |                         |                  |           |                          | Niagara-on-the-Lake STP   |                    |
|               |                 |                         |                  |           |                          | Niagara-on-the-Lake WTP   |                    |
|               |                 |                         |                  |           |                          | Oakville WTP              |                    |
|               |                 |                         |                  |           |                          | Oshawa WTP                |                    |
|               |                 |                         |                  |           |                          | Petro Canada Products (1) |                    |
|               |                 |                         |                  |           |                          | Petro Canada Products (2) |                    |
|               |                 |                         |                  |           |                          | Pickering NGS             |                    |
|               |                 |                         |                  |           |                          | Picton STP                |                    |
|               |                 |                         |                  |           |                          | Picton WTP                |                    |
|               |                 |                         |                  |           |                          | Point Anne WTP            |                    |
|               |                 |                         |                  |           |                          | Port Dalhousie WPCP       |                    |
|               |                 |                         |                  |           |                          | Port Darlington WPCP      |                    |
|               |                 |                         |                  |           |                          | Port Hope WPCP            |                    |
|               |                 |                         |                  |           |                          | Port Hope WTP             |                    |
|               |                 |                         |                  |           |                          | Port Weller WPCP          |                    |
|               |                 |                         |                  |           |                          | Prince Edward Hgts. WPCP  |                    |
|               |                 |                         |                  |           |                          | Pringle Creek WPCP 1&2    |                    |
|               |                 |                         |                  |           |                          | Redpath Sugar             |                    |
|               |                 |                         |                  |           |                          | River St. Pumping St      |                    |
|               |                 |                         |                  |           |                          | R. C. Harris WTP          |                    |
|               |                 |                         |                  |           |                          | R. L. Clark WTP           |                    |
|               |                 |                         |                  |           |                          | R. L. Hearn TGS           |                    |
|               |                 |                         |                  |           |                          | Sandhurst Shores WTP      |                    |
|               |                 |                         |                  |           |                          | Scarborough Pump St.      |                    |
|               |                 |                         |                  |           |                          | Shell Canada Ltd.         |                    |
|               |                 |                         |                  |           |                          | Skyway WPCP               |                    |

ALL OPERATIONS INCLUDED IN THE ATLAS

[illegible]

Table 2  
OPERATIONS INCLUDED IN VOLUME 2  
ST. MARYS RIVER

|                           |            |
|---------------------------|------------|
| *****                     |            |
| Operation                 | Map Number |
| *****                     |            |
| Algoma Steel Corp.        | 3          |
| Sault. Ste. Marie WPCP    | 3          |
| Sault. Ste. Marie WPCP    | 4          |
| Sault. Ste. Marie WTP     | 2          |
| Sault. Ste. Marie WTP     | 5          |
| St. Marys Paper Inc.      | 5          |
| Union Carbide Canada Ltd. | 3          |



Table 3

## INDUSTRY NOT RESPONDING TO QUESTIONNAIRE

## INFORMATION OBTAINED FROM MOE

```

*****
Name of Operation      Location      Comments
*****
Arrowhead Metals      Toronto      No applicable intake or outfall structures
BCL                   Cornwall     From Southeast Regional Office
Courtaulds            Cornwall     From Southeast Regional Office
Domtar Construction Materials Thorold     From Welland District Office
Domtar Wood Preservers Trenton      From Southeast Regional Office
Du Pont              Corunna     From Southwest Regional Office
Du Pont              Kingston    From Southeast Regional Office
Du Pont              Whitby      No applicable intake or outfall structures
Du Pont              Maitland    From Southeast Regional Office
Esco Ltd.            Whitby      No applicable intake or outfall structures
Fittings Ltd.        Whitby      No applicable intake or outfall structures
Ford Motor Co. of Canada Essex Engine Plant No applicable intake or outfall structures
Ford Motor Co. of Canada Windsor Engine Plant From Southwest Regional Office
General Chemicals     Sombra      From Southwest Regional Office
Holiday Farms         Niagara Falls From Welland District Office
Kraft Ltd.            Williamstown No applicable intake or outfall structures
Kraft Ltd.            Wolfe Island No applicable intake or outfall structures
Kraft Ltd.            Ingleside   From Southeast Regional Office

```

Table 4

LIST OF ABBREVIATIONS

|           |                                               |  |
|-----------|-----------------------------------------------|--|
| *****     |                                               |  |
| CEN       | Central                                       |  |
| CFB       | Canadian Forces Base                          |  |
| CSO       | Combined Sewer Overflow                       |  |
| DND       | Department of National Defence                |  |
| EO        | Emergency Overflow                            |  |
| IND       | Industrial Operation                          |  |
| MGS       | Ministry of Government Services               |  |
| MNR       | Ministry of Natural Resources                 |  |
| MOE       | Ministry of the Environment                   |  |
| MUN       | Municipal Operation                           |  |
| NA        | Not Available                                 |  |
| NGS       | Nuclear Generating Station                    |  |
| P Removal | Phosphorus Removal                            |  |
| PP        | Provincial Park                               |  |
| PS        | Pumping Station                               |  |
| PUC       | Public Utilities Commission                   |  |
| RM        | Regional Municipality                         |  |
| S         | Sanitary Sewer Overflow                       |  |
| SS        | Storm Sewer                                   |  |
| STP       | Sewage Treatment Plant ( same as WPCP )       |  |
| TGS       | Thermal Generating Station                    |  |
| TWP       | Township                                      |  |
| UV        | Ultra-Violet                                  |  |
| WPCP      | Water Pollution Control Plant ( same as STP ) |  |
| WSS       | Water Supply System                           |  |
| WTP       | Water Treatment Plants                        |  |

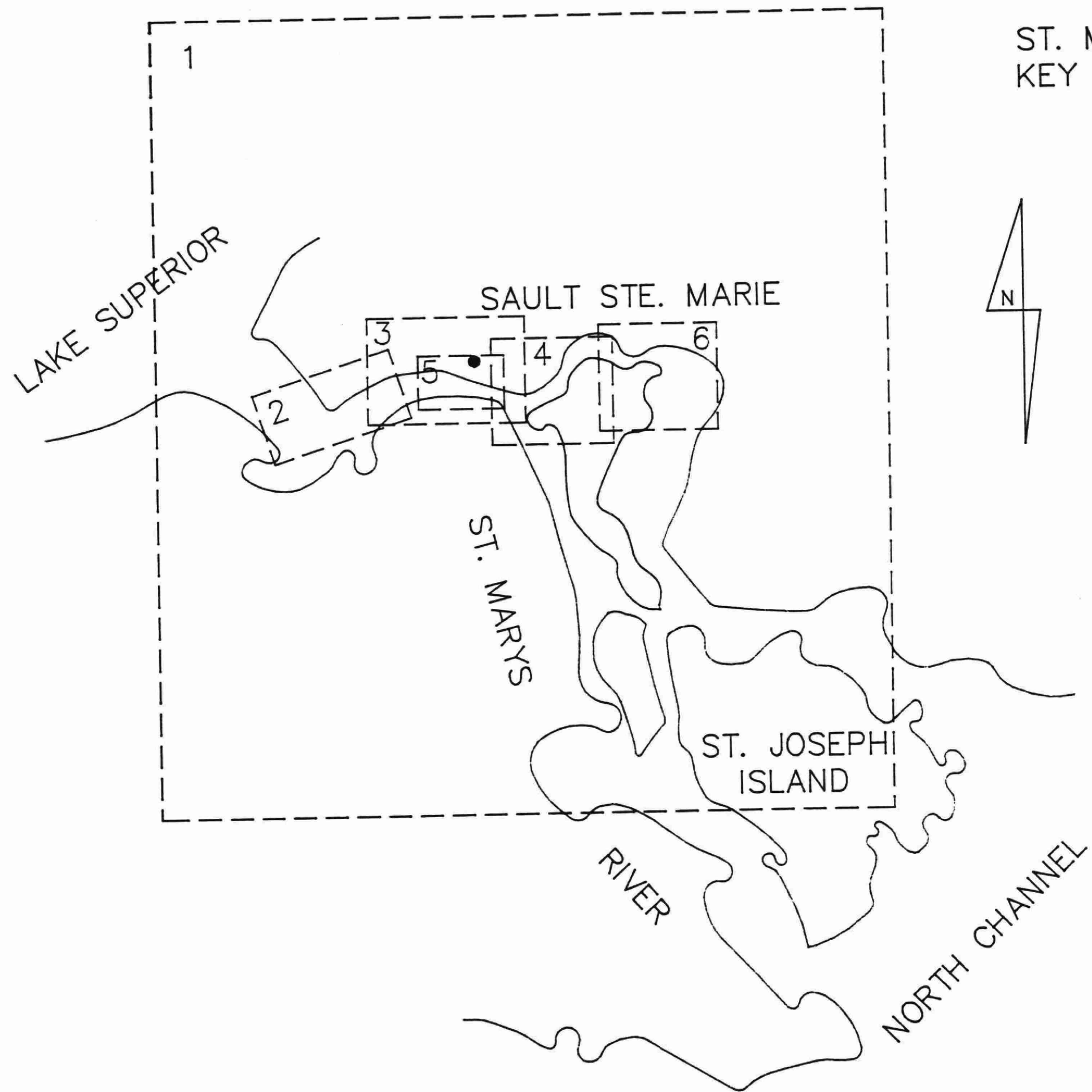
TABLE 5

EXPLANATION OF DATA TABLES

|                               |                                                                                                                                                                                                   |
|-------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Name of Operation:</b>     | Name of municipality or industry                                                                                                                                                                  |
| <b>Intake/Outfall:</b>        | Indication of Use of pipe                                                                                                                                                                         |
| <b>UMIS/IMIS No.:</b>         | Number in the Ministry's Utility Monitoring Information System and Industrial Monitoring Information System from which other data can be obtained.                                                |
| <b>Structure No.:</b>         | Indicates structures on the accompanying map.                                                                                                                                                     |
| <b>Map No.:</b>               | Indicates map on which the structure can be located.                                                                                                                                              |
| <b>Operating Authority:</b>   | Identifies who owns or has jurisdiction over the facility i.e. Industry, MOE, MNR, MUN, PUC, MGS, etc.                                                                                            |
| <b>Location:</b>              | Identifies where the facility and accompanying structures are located (usually indicated by as City, Town or Township).                                                                           |
| <b>Supplier/Receiver:</b>     | Identifies the water body that wither supplies water to a facility via the intake, or receives effluent via the outfall.                                                                          |
| <b>Point of Discharge:</b>    | Applies to outfalls only. Indicates location of discharge i.e. shore (0-99 m from shoreline), offshore ( $\geq$ 100m for shoreline), harbour, embayment, river mouth (0-2 km upstream from lake). |
| <b>Terminal Basin:</b>        | Lake or river basin, from which water is drawn or effluent discharged to                                                                                                                          |
| <b>Activity:</b>              | General categorization of a particular facility (eg. Steel Production, Municipal Water Treatment, etc.)                                                                                           |
| <b>Process Type:</b>          | Description of activity (eg. Major phases of Steel production, Physical and Chemical Treatment, Secondary Treatment, etc.)                                                                        |
| <b>Supply/Discharge Type:</b> | Description of how water is drawn in, or effluent discharged (eg. Continuous, Batch Seasonal, etc.)                                                                                               |

|                                       |                                                                                                                                                                                                |
|---------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Treatment Type:</b>                | Description of how water and/or effluent is treated before use/before discharge. Indication of major steps in treatment, if any.                                                               |
| <b>Comments:</b>                      | Any other remarks relating to the operation, its intakes or outfalls, process or treatment activities, such as plant closures, future modifications, relationship with nearby operations, etc; |
| <b>Design Flow:</b>                   | Quantity (in 1,000 m <sup>3</sup> /day) of water can be drawn in via intake or discharged via outfall according to design specifications.                                                      |
| <b>Mean Annual Flow:</b>              | Quantity (in 1,000 m <sup>3</sup> /day) on the average, of water can be drawn in via intake or discharged via outfall according to design specifications.                                      |
| <b>Pipe Length from Shore:</b>        | Length of intake/outfall pipe from shore, given in metres.                                                                                                                                     |
| <b>Pipe Diameter:</b>                 | Given in centimeters. If pipe is rectangular or oval in shape, the largest dimension is given.                                                                                                 |
| <b>Water Depth at End of Pipe:</b>    | Depth of water, in metres, at the end of the pipe.                                                                                                                                             |
| <b>Water Depth above End of Pipe:</b> | Depth of water, in metres, above the end of the pipe.                                                                                                                                          |
| <b>Diffuser:</b>                      | Applies to outfall structures only. Indicates if an effluent diffusing structure is present on the outfall.                                                                                    |
| <b>Number of Ports:</b>               | If diffuser is present on the outfall an indication is given to the number of ports in the diffusing structure.                                                                                |

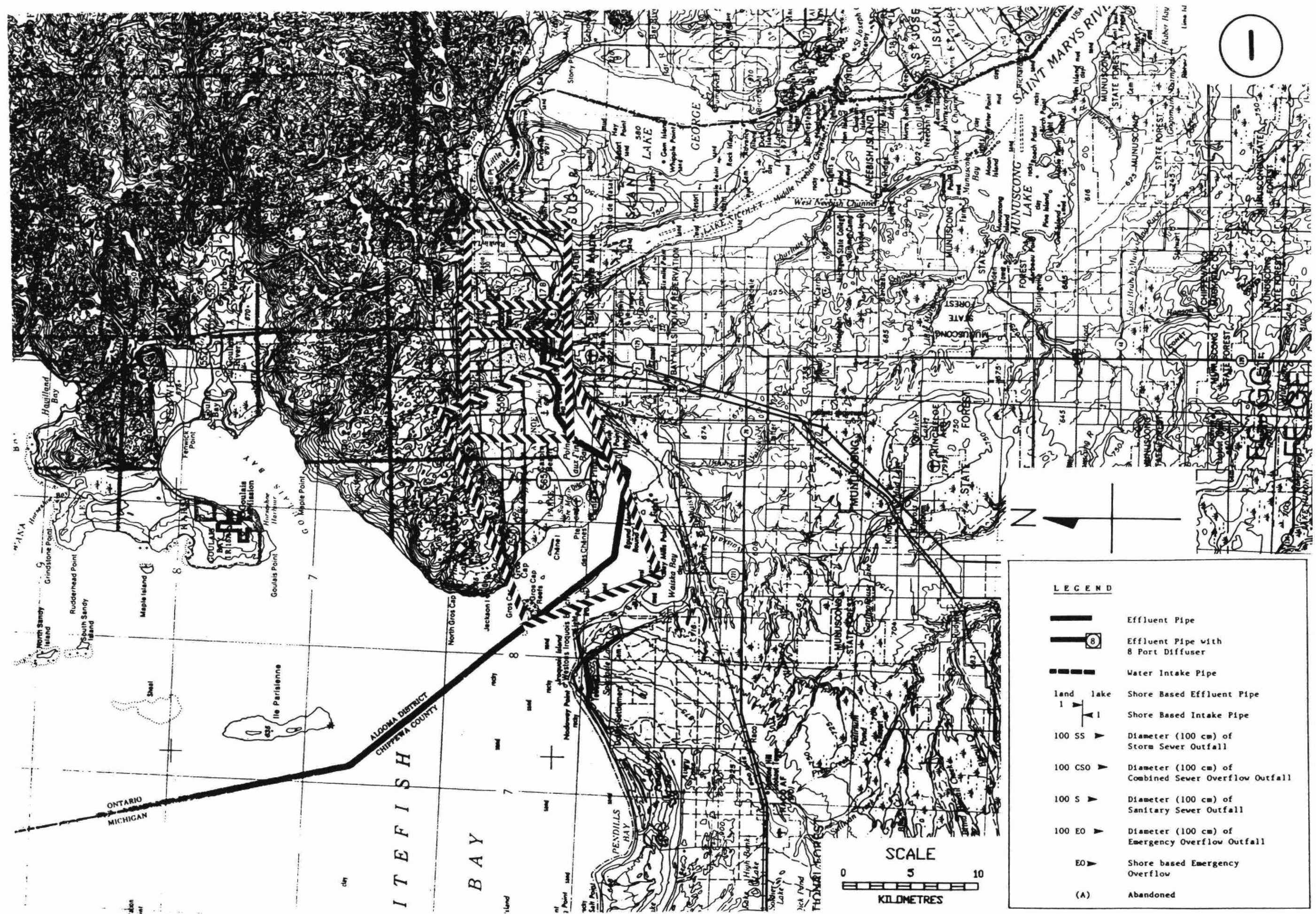
KEY PLAN



ST. MARYS RIVER  
KEY PLAN







|                                   |                           |  |  |  |  |  |  |
|-----------------------------------|---------------------------|--|--|--|--|--|--|
| Name                              | Sault. Ste. Marie WTP     |  |  |  |  |  |  |
| Intake/Outfall                    | Intake                    |  |  |  |  |  |  |
| UNIS/IMIS No.                     | NA                        |  |  |  |  |  |  |
| Structure No.                     | 1                         |  |  |  |  |  |  |
| Map Number                        | 2                         |  |  |  |  |  |  |
| Operating Authority               | MUN PUC                   |  |  |  |  |  |  |
| Location                          | Sault. Ste. Marie         |  |  |  |  |  |  |
| Supplier/Receiver                 | Lake Superior             |  |  |  |  |  |  |
| Point of Discharge                |                           |  |  |  |  |  |  |
| Terminal Basin                    | St. Marys River           |  |  |  |  |  |  |
| Activity                          | Municipal Water Treatment |  |  |  |  |  |  |
| Process Type                      | Chemical Treatment        |  |  |  |  |  |  |
| Supply/Discharge Type             | Continuous                |  |  |  |  |  |  |
| Treatment Type                    | Aqua amonia Chlorine      |  |  |  |  |  |  |
| Comments                          |                           |  |  |  |  |  |  |
| Design Flow (1000m3/day)          | 40.00                     |  |  |  |  |  |  |
| Mean Annual Flow (1000m3/day)     | 17.00                     |  |  |  |  |  |  |
| Pipe length from shore (m)        | 840.00                    |  |  |  |  |  |  |
| Pipe Diameter (cm)                | 120.00                    |  |  |  |  |  |  |
| Water Depth at end of pipe (m)    | 18.10                     |  |  |  |  |  |  |
| Water depth above end of pipe (m) | 14.20                     |  |  |  |  |  |  |
| Diffuser                          |                           |  |  |  |  |  |  |
| Number of ports                   |                           |  |  |  |  |  |  |





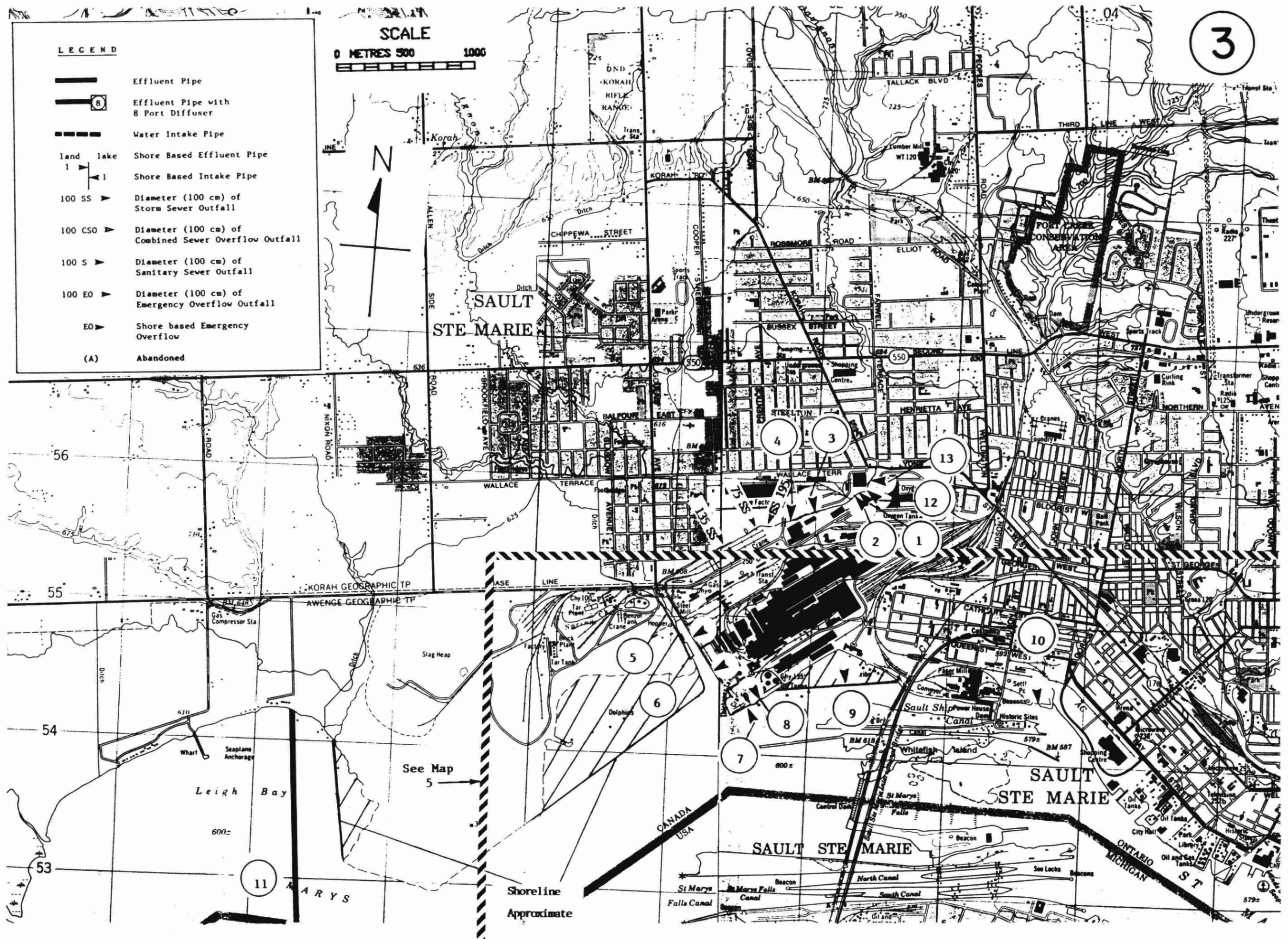
|                                   |                                                                        |                                                                        |                                |                                |                                                                        |                                                                        |                                                                        |
|-----------------------------------|------------------------------------------------------------------------|------------------------------------------------------------------------|--------------------------------|--------------------------------|------------------------------------------------------------------------|------------------------------------------------------------------------|------------------------------------------------------------------------|
| Name                              | Algoma Steel Corp.                                                     | Algoma Steel Corp.                                                     | Algoma Steel Corp.             | Algoma Steel Corp.             | Algoma Steel Corp.                                                     | Algoma Steel Corp.                                                     | Algoma Steel Corp.                                                     |
| Intake/Outfall                    | Outfall                                                                | Outfall                                                                | Outfall                        | Outfall                        | Outfall                                                                | Outfall                                                                | Intake                                                                 |
| UMIS/IMIS No.                     | 0000040006                                                             | 0000040006                                                             | 0000040006                     | 0000040006                     | 0000040006                                                             | 0000040006                                                             | 0000040006                                                             |
| Structure No.                     | 1                                                                      | 2                                                                      | 3                              | 4                              | 5                                                                      | 6                                                                      | 7                                                                      |
| Map Number                        | 3                                                                      | 3                                                                      | 3                              | 3                              | 3                                                                      | 3                                                                      | 3                                                                      |
| Operating Authority               | IND                                                                    | IND                                                                    | IND                            | IND                            | IND                                                                    | IND                                                                    | IND                                                                    |
| Location                          | Sault. Ste. Marie                                                      | Sault. Ste. Marie                                                      | Sault. Ste. Marie              | Sault. Ste. Marie              | Sault. Ste. Marie                                                      | Sault. Ste. Marie                                                      | Sault. Ste. Marie                                                      |
| Supplier/Receiver                 | East Davignon Creek                                                    | East Davignon Creek                                                    | East Davignon Creek            | East Davignon Creek            | St. Marys River                                                        | St. Marys River                                                        | St. Marys River                                                        |
| Point of Discharge                | River Mouth                                                            | River Mouth                                                            | River Mouth                    | River Mouth                    | Shore                                                                  | Shore                                                                  |                                                                        |
| Terminal Basin                    | St. Marys River                                                        | St. Marys River                                                        | St. Marys River                | St. Marys River                | St. Marys River                                                        | St. Marys River                                                        | St. Marys River                                                        |
| Activity                          | Steel Manufacturing                                                    | Steel Manufacturing                                                    | Steel Manufacturing            | Steel Manufacturing            | Steel Manufacturing                                                    | Steel Manufacturing                                                    | Steel Manufacturing                                                    |
| Process Type                      | Iron from blast furnace and foundary, steel from coal and iron pellets | Iron from blast furnace and foundary, steel from coal and iron pellets | Seamless Tube Mill Hot Forming | Seamless Tube Mill Hot Forming | Iron from blast furnace and foundary, steel from coal and iron pellets | Iron from blast furnace and foundary, steel from coal and iron pellets | Iron from blast furnace and foundary, steel from coal and iron pellets |
| Supply/Discharge Type             | Continuous                                                             | Continuous                                                             | Continuous                     | Continuous                     | Continuous                                                             | Continuous                                                             | Continuous                                                             |
| Treatment Type                    | None                                                                   | None                                                                   | Primary                        | Primary                        | NA                                                                     | NA                                                                     | Screens                                                                |
| Comments                          | Cooling water only                                                     | Cooling water only                                                     |                                |                                | Blast Furnace                                                          | Blast Furnace                                                          | Main Plant Intake for cooling and process water<br>Four intake ports   |
| Design Flow (1000m3/day)          | NA                                                                     | NA                                                                     | NA                             | NA                             | NA                                                                     | NA                                                                     | NA                                                                     |
| Mean Annual Flow (1000m3/day)     | 1.20                                                                   | 6.40                                                                   | 6.40                           | NA                             | 30.00                                                                  | 49.00                                                                  | 900.00                                                                 |
| Pipe length from shore (m)        | 0.00                                                                   | 0.00                                                                   | 0.00                           | 3.00                           | 0.00                                                                   | 0.00                                                                   | 3.00                                                                   |
| Pipe Diameter (cm)                | 61.00                                                                  | 45.70                                                                  | 45.70                          | NA                             | 76.00                                                                  | 152.00                                                                 | 183.00                                                                 |
| Water Depth at end of pipe (m)    | 0.15                                                                   | 0.15                                                                   | 0.15                           | 0.15                           | 7.38                                                                   | 7.38                                                                   | 3.50                                                                   |
| Water depth above end of pipe (m) | 0.00                                                                   | 0.00                                                                   | 0.00                           | 0.00                           | 0.00                                                                   | 0.00                                                                   | 1.00                                                                   |
| Diffuser                          | NO                                                                     | NO                                                                     | NO                             | NO                             | NO                                                                     | NO                                                                     |                                                                        |
| Number of ports                   |                                                                        |                                                                        |                                |                                |                                                                        |                                                                        |                                                                        |





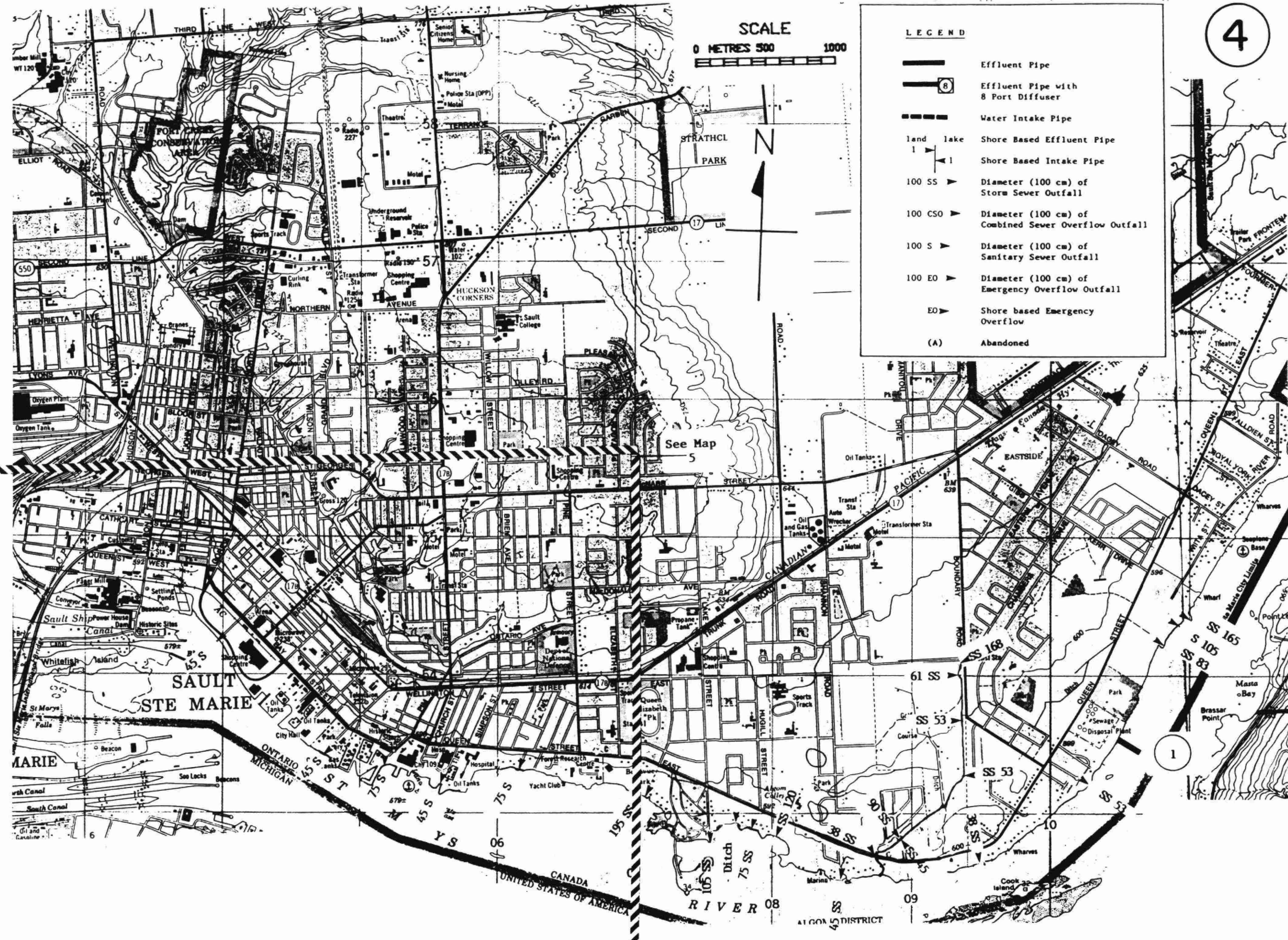
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|-----------------------------------|-----------------------------------------------------------------------|-----------------------------------------------------------------------|-----------------------------------------------------------------------|---------------------------------------|--------------------------------------|---------------------------|----|
| Name                              | Algoma Steel Corp.                                                    | Algoma Steel Corp.                                                    | Algoma Steel Corp.                                                    | Sault. Ste. Marie WPCP                | Union Carbide Canada Ltd.            | Union Carbide Canada Ltd. |    |
| Intake/Outfall                    | Outfall                                                               | Outfall                                                               | Outfall                                                               | Outfall                               | Outfall                              | Outfall                   |    |
| UMIS/IMIS No.                     | 0000040006                                                            | 0000040006                                                            | 0000040006                                                            | 1100025400                            | NA                                   | NA                        |    |
| Structure No.                     |                                                                       | 8                                                                     | 9                                                                     | 10                                    | 11                                   | 12                        | 13 |
| Map Number                        |                                                                       | 3                                                                     | 3                                                                     | 3                                     | 3                                    | 3                         | 3  |
| Operating Authority               | IND                                                                   | IND                                                                   | IND                                                                   | MUN                                   | IND                                  | IND                       |    |
| Location                          | Sault. Ste. Marie                                                     | Sault. Ste. Marie                                                     | Sault. Ste. Marie                                                     | Sault. Ste. Marie                     | Sault. Ste. Marie                    | Sault. Ste. Marie         |    |
| Supplier/Receiver                 | St. Marys River                                                       | St. Marys River                                                       | St. Marys River                                                       | Leigh Bay                             | East Davignon Creek                  | East Davignon Creek       |    |
| Point of Discharge                | Shore                                                                 | Shore                                                                 | Shore                                                                 | Offshore                              | River Mouth                          | River Mouth               |    |
| Terminal Basin                    | St. Marys River                                                       | St. Marys River                                                       | St. Marys River                                                       | St. Marys River                       | St. Marys River                      | St. Marys River           |    |
| Activity                          | Steel Manufacturing                                                   | Steel Manufacturing                                                   | Steel Manufacturing                                                   | Municipal Sewage Treatment            | Air Separation                       | Air Separation            |    |
| Process Type                      | Iron from blast furnace and foundry, steel from coal and iron pellets | Iron from blast furnace and foundry, steel from coal and iron pellets | Iron from blast furnace and foundry, steel from coal and iron pellets | Secondary Treatment                   | Oxygen packaging                     | Oxygen packaging          |    |
| Supply/Discharge Type             | Continuous                                                            | Continuous                                                            | Continuous                                                            | Continuous                            | Batch                                | Batch                     |    |
| Treatment Type                    | None                                                                  | NA                                                                    | Primary and Secondary Treatment                                       | Activated Sludge P Removal-Continuous | None                                 | None                      |    |
| Comments                          | Cooling water outfall                                                 | Bar and strip lagoon                                                  | Terminal Basin                                                        |                                       | Cooling water and storm-water runoff | Stormwater runoff only    |    |
| Design Flow (1000m3/day)          | NA                                                                    | NA                                                                    | NA                                                                    | 20.00                                 | NA                                   | NA                        |    |
| Mean Annual Flow (1000m3/day)     | 195.00                                                                | 59.00                                                                 | 318.00                                                                | 7.00                                  | NA                                   | NA                        |    |
| Pipe length from shore (m)        | 2.00                                                                  | 0.00                                                                  | NA                                                                    | 1421.00                               | 0.00                                 | 0.00                      |    |
| Pipe Diameter (cm)                | 122.00                                                                | 183.00                                                                | 183.00                                                                | 165.00                                | 10.16                                | 10.16                     |    |
| Water Depth at end of pipe (m)    | 0.50                                                                  | 0.46                                                                  | 6.00                                                                  | NA                                    | 0.00                                 | 0.00                      |    |
| Water depth above end of pipe (m) | 0.00                                                                  | 0.00                                                                  | 5.50                                                                  | 5.40                                  | 0.00                                 | 0.00                      |    |
| Diffuser                          | NO                                                                    | NO                                                                    | YES                                                                   | NO                                    | NO                                   | NO                        |    |
| Number of ports                   |                                                                       |                                                                       | 5                                                                     |                                       |                                      |                           |    |





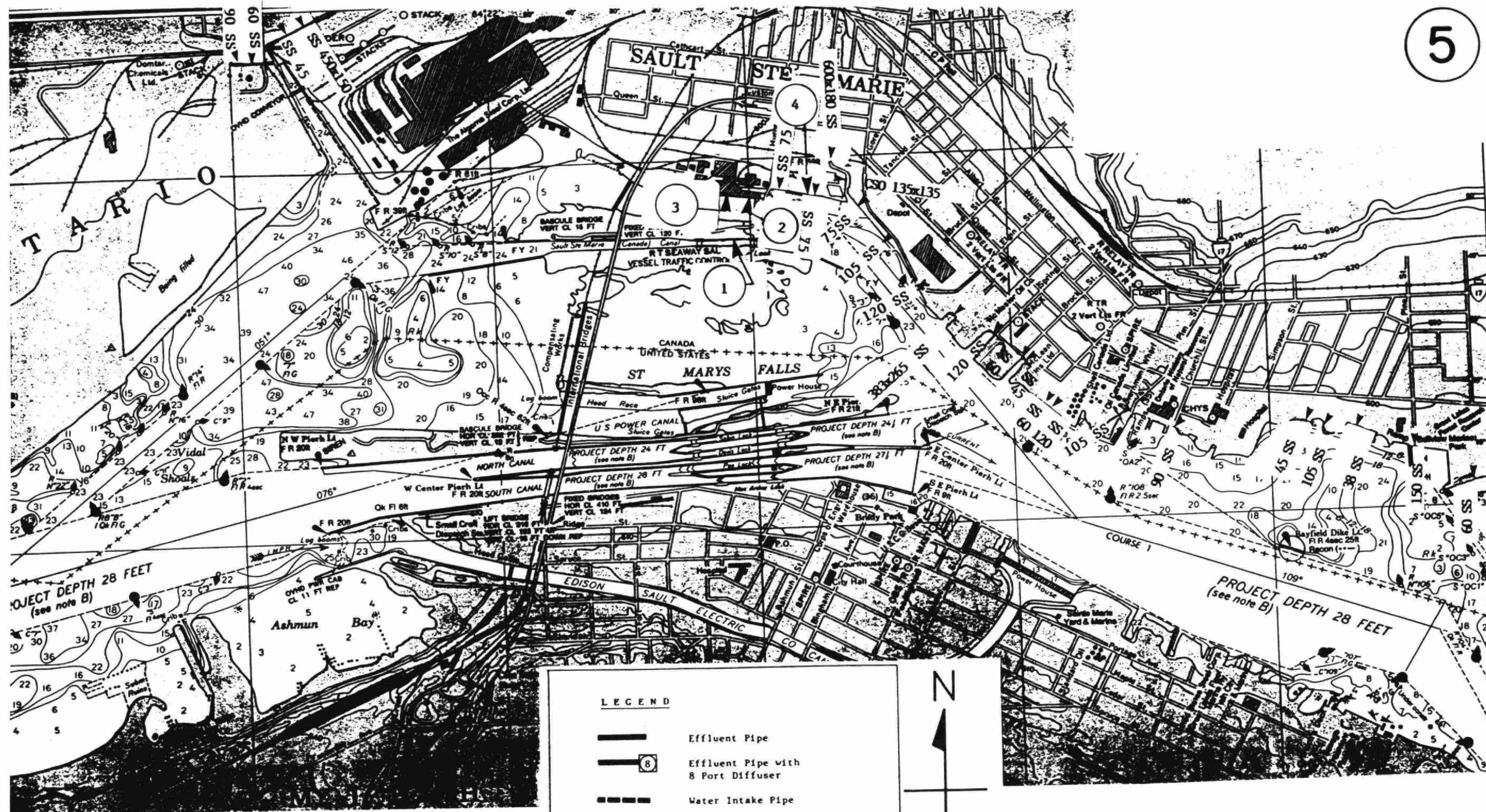
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|-----------------------------------|-----------------------------------------------|--|--|--|--|--|
| Name                              | Sault. Ste. Marie WPCP                        |  |  |  |  |  |
| Intake/Outfall                    | Outfall                                       |  |  |  |  |  |
| UMIS/IMIS No.                     | 1100006400                                    |  |  |  |  |  |
| Structure No.                     | 1                                             |  |  |  |  |  |
| Map Number                        | 4                                             |  |  |  |  |  |
| Operating Authority               | MUN                                           |  |  |  |  |  |
| Location                          | Sault. Ste. Marie                             |  |  |  |  |  |
| Supplier/Receiver                 | St. Marys River                               |  |  |  |  |  |
| Point of Discharge                | Offshore                                      |  |  |  |  |  |
| Terminal Basin                    | St. Marys River                               |  |  |  |  |  |
| Activity                          | Municipal Sewage Treatment                    |  |  |  |  |  |
| Process Type                      | Primary Treatment                             |  |  |  |  |  |
| Supply/Discharge Type             | Continuous                                    |  |  |  |  |  |
| Treatment Type                    | Primary, chlorination<br>P Removal-Continuous |  |  |  |  |  |
| Comments                          | P Removal beginning 1987                      |  |  |  |  |  |
| Design Flow (1000m3/day)          | 55.00                                         |  |  |  |  |  |
| Mean Annual Flow (1000m3/day)     | 44.00                                         |  |  |  |  |  |
| Pipe length from shore (m)        | 152.00                                        |  |  |  |  |  |
| Pipe Diameter (cm)                | 167.00                                        |  |  |  |  |  |
| Water Depth at end of pipe (m)    | 6.00                                          |  |  |  |  |  |
| Water depth above end of pipe (m) | 4.00                                          |  |  |  |  |  |
| Diffuser                          | NO                                            |  |  |  |  |  |
| Number of ports                   |                                               |  |  |  |  |  |



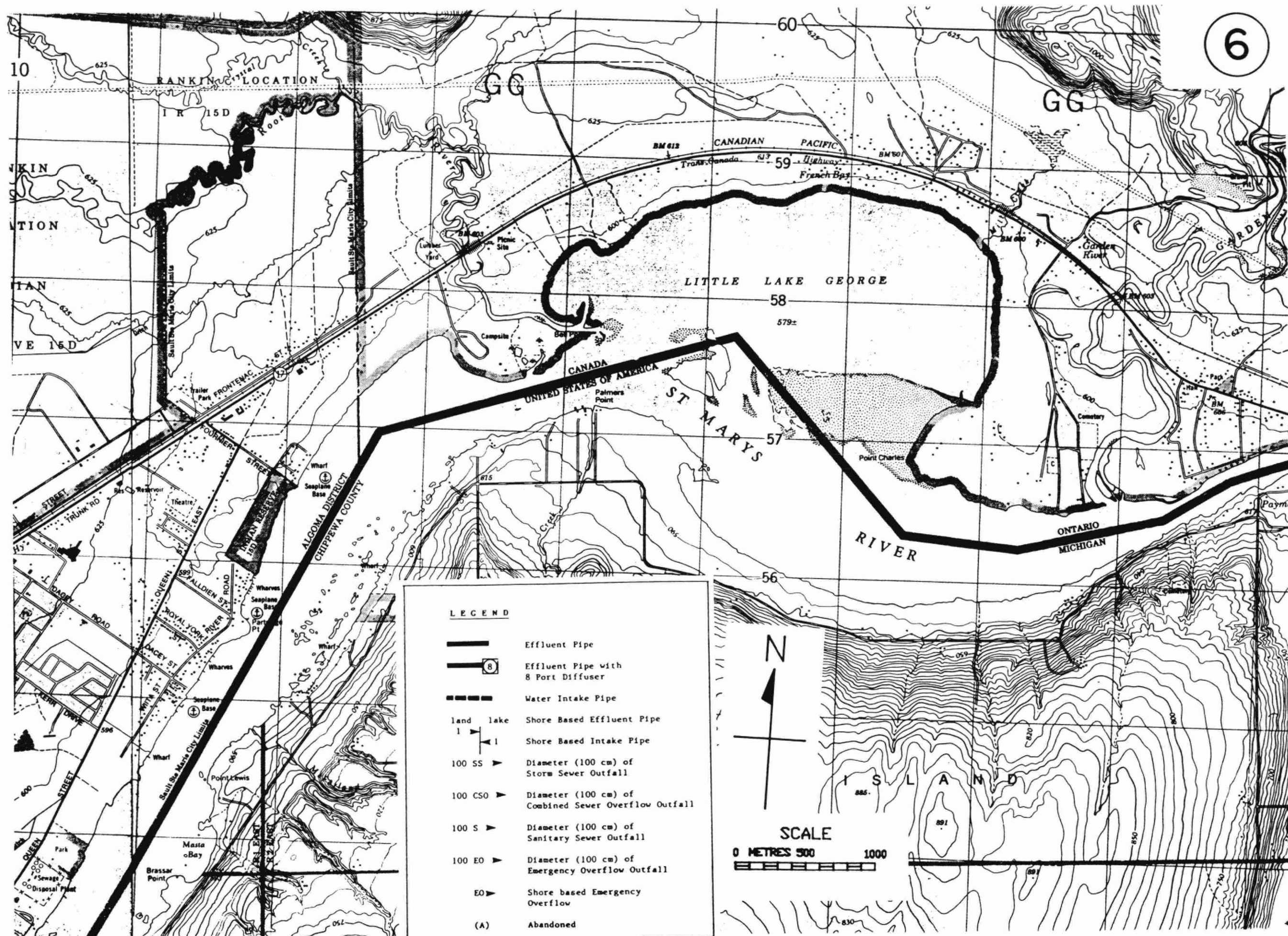


|                                   |                                                                                           |                                                                                           |                                                                     |                                                                     |  |  |  |
|-----------------------------------|-------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|---------------------------------------------------------------------|---------------------------------------------------------------------|--|--|--|
| Name                              | Sault. Ste. Marie WTP                                                                     | Sault. Ste. Marie WTP                                                                     | St. Marys Paper Inc.                                                | St. Marys Paper Inc.                                                |  |  |  |
| Intake/Outfall                    | Intake                                                                                    | Intake                                                                                    | Intake                                                              | Outfall                                                             |  |  |  |
| UMIS/IMIS No.                     | NA                                                                                        | NA                                                                                        | 0000860304                                                          | 0000860304                                                          |  |  |  |
| Structure No.                     | 1                                                                                         | 2                                                                                         | 3                                                                   | 4                                                                   |  |  |  |
| Map Number                        | 5                                                                                         | 5                                                                                         | 5                                                                   | 5                                                                   |  |  |  |
| Operating Authority               | MUN PUC                                                                                   | MUN PUC                                                                                   | IND                                                                 | IND                                                                 |  |  |  |
| Location                          | Sault. Ste. Marie                                                                         | Sault. Ste. Marie                                                                         | Sault. Ste. Marie                                                   | Sault. Ste. Marie                                                   |  |  |  |
| Supplier/Receiver                 | St. Marys River                                                                           | St. Marys River                                                                           | St. Marys River                                                     | St. Marys River                                                     |  |  |  |
| Point of Discharge                |                                                                                           |                                                                                           |                                                                     | Shore                                                               |  |  |  |
| Terminal Basin                    | St. Marys River                                                                           | St. Marys River                                                                           | St. Marys River                                                     | St. Marys River                                                     |  |  |  |
| Activity                          | Municipal Water Treatment                                                                 | Municipal Water Treatment                                                                 | Pulp and Paper Production                                           | Pulp and Paper Production                                           |  |  |  |
| Process Type                      | Chemical Treatment                                                                        | Chemical Treatment                                                                        | Mechanical Pulping of<br>groundwood and mfg. of<br>specialty papers | Mechanical Pulping of<br>groundwood and mfg. of<br>specialty papers |  |  |  |
| Supply/Discharge Type             | Continuous                                                                                | Continuous                                                                                | Continuous                                                          | Continuous                                                          |  |  |  |
| Treatment Type                    | Chlorine & Ammonia                                                                        | Chlorine & Ammonia                                                                        | Screened                                                            | Clarifier, sludge<br>dewatering and burning                         |  |  |  |
| Comments                          | This pump station<br>out of service. New<br>Sewage treatment plant<br>upstream of intakes | This pump station<br>out of service. New<br>Sewage treatment plant<br>upstream of intakes | Water used for drinking<br>cooling and floatation                   |                                                                     |  |  |  |
| Design Flow (1000m3/day)          | NA                                                                                        | NA                                                                                        | 27.00                                                               | 27.00                                                               |  |  |  |
| Mean Annual Flow (1000m3/day)     | 7.70                                                                                      | 7.70                                                                                      | 27.00                                                               | 27.00                                                               |  |  |  |
| Pipe length from shore (m)        | 0.00                                                                                      | 0.00                                                                                      | 0.00                                                                | 55.00                                                               |  |  |  |
| Pipe Diameter (cm)                | 122.00                                                                                    | 122.00                                                                                    | 76.00                                                               | 90.00                                                               |  |  |  |
| Water Depth at end of pipe (m)    | NA                                                                                        | NA                                                                                        | 2.90                                                                | 10.00                                                               |  |  |  |
| Water depth above end of pipe (m) | NA                                                                                        | NA                                                                                        | 2.10                                                                | 10.00                                                               |  |  |  |
| Diffuser                          |                                                                                           |                                                                                           |                                                                     | YES                                                                 |  |  |  |
| Number of ports                   |                                                                                           |                                                                                           |                                                                     | 13                                                                  |  |  |  |









LEGEND

- Effluent Pipe
- Effluent Pipe with 8 Port Diffuser
- Water Intake Pipe
- Shore Based Effluent Pipe
- Shore Based Intake Pipe
- Diameter (100 cm) of Storm Sewer Outfall
- Diameter (100 cm) of Combined Sewer Overflow Outfall
- Diameter (100 cm) of Sanitary Sewer Outfall
- Diameter (100 cm) of Emergency Overflow Outfall
- Shore based Emergency Overflow
- Abandoned



SCALE  
0 METRES 500 1000



(16135)

TD/223.3/C43/Vol.II/MOE